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Stories in MEDNEWS use these abbreviations after a Navy medical professional's name to show affiliation: MC - Medical Corps (physician); DC - Dental Corps; NC - Nurse Corps; MSC - Medical Service Corps (clinicians, researchers and administrative managers). Hospital Corpsmen (HM) and Dental Technician (DT) designators are placed in front of their names.

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Headline: Hearing loss a readiness issue (photo)

By Capt. Jane F. Vieira, CHC, Naval Sea Systems Command

CRYSTAL CITY, Va. -- Hearing as a readiness issue, with focus on noise-induced hearing problems were the topics of the Navy's first symposium on hearing loss held Feb. 4th at Naval Sea Systems Command.

More than 20 military and civilian experts in research audiology and acoustics engineering from across the country met to address and seek solutions to the impact of noise on operational readiness aboard surface ships.

The conference looked at the effect of noise on performance and safety as well as how the problem concerns the entire spectrum of naval personnel.

Subject matter experts presented studies demonstrating that many Sailors leave the Navy with significant hearing loss and that 282,000 service members currently collect compensation for hearing damage.

Vice Adm. Pete Nanos, commander, Naval Sea Systems Command said noise impacts the readiness of the Navy in many ways: poor or lost communications, sleep deprivation, fatigue, reduced alertness, safety, retention, morale, habitability, as well as short and long term hearing loss.

Nanos said hearing conservation is an issue of readiness, safety, health and quality of life. Fixing this problem is an ethical and leadership issue, and it is the right thing to do.

Hearing stress, which is measured in decibels, increases on a logarithmic scale. Symposium experts demonstrated how the majority of sounds encountered by military personnel potentially fall within a dangerous range of sound pressure levels.

Continuous background noise, as experienced on most surface ships, begins hearing stress. Additional noise peaks, such as firing weapons or aircraft launches, superimposed on continuous background noise can cause even greater damage. Hearing research has also concluded that humans adapt to higher noise levels, and consequently become accustomed to harmful sound levels.

While hearing has been viewed as more of a health or quality of life issue, existing data increasingly suggest it is also a significant operational readiness concern. Aboard aircraft carriers, the steady and intermittent noises created by launching and recovering aircraft 24-hours-a-day produce deafening noises from jet engines at full power, arresting gear machinery, arresting cable slap, catapult launches, waterbrakes and more.

Better hearing protection devices, currently being deployed, was one of the solutions to the problem of noise on surface ships presented at the conference. Discussions also included the use of pharmacological methods to prevent and reverse hearing loss.

These methods are in pre-clinical trials and appear to offer exciting and cost-effective strategies to reduce permanent hearing loss from excessive noise. Acoustic technology is also providing solutions, especially in the commercial arena.

Quiet fans and motors, new insulation materials, laminated sheet metal, better joiner systems, and effective communication earpieces are all being used commercially in active noise control efforts.

Nanos challenged those at the symposium to raise the priority of hearing loss prevention with completed studies and data assimilation.

"NAVSEA's goal for the 21st century is not only to eliminate the impact of noise as a factor in operational readiness and to increase shipboard quality of life, but to do our part in keeping Sailors and Marines out of hearing

conservation programs rather than just preventing hearing loss," he said.

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Headline: New approaches to preventing hearing loss

By Col. Richard Kopke, MC, USA, Naval Medical Center San Diego

SAN DIEGO -- Traditional approaches to prevent hearing loss in military settings have included efforts to engineer weapons systems and work spaces to be quieter, personal protection devices, and hearing conservation programs. Considerable reduction in noise-induced hearing loss has occurred since WW II.

Still, there are physical and human factors which reduce the effectiveness of personal hearing protection devices such as transmission of sound energy through the skull directly to the inner ear, the need for a perfect seal of the protective device, discomfort, and the element of surprise.

These are some of the compelling reasons why a pharmacological approach to preventing or reversing noise-induced hearing loss may be attractive. This approach involves making the inner ear more resistant to noise through the use of antioxidant compounds, or in some cases reversing hearing loss using rescue agents.

Most military personnel are exposed to damaging levels of noise during defined periods of training such as weapons training, flight operations, live fire exercises or duty in engine rooms. The antioxidant compounds could be given to personnel around the time of such exposures along with mechanical protectors. The combination would more effectively reduce permanent hearing loss.

Another approach would be to closely monitor hearing levels and administer rescue agents to those personnel who develop hearing loss over these defined periods of intense noise exposure. This would enhance the ear's ability to recover and rest prior to further noise exposures.

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Headline: Carrier's first physical therapist is no pain in the neck (photo)

By JO1 (AW) John Joyce

USS GEORGE WASHINGTON (CVN 73) -- "As a newly hired physical therapist at a civilian hospital or clinic, I would step into a wonderful office and inherit a pre-established physical therapy program," said Lt. Janice Rinkel, USS George Washington's (CVN 73) first physical therapist. "That would be comfortable. But I'm still kind of an adventurous person and that's why I'm here."

"The adventure of coming aboard a great warship and the chance to say, 'hey, I get to set up this clinic,' is a great challenge but it's a challenge I feel I'm up to," said Rinkel.

She checked aboard the "Spirit of Freedom" in November

of 1999 as part of a Bureau of Medicine and Surgery five-year trial, which incorporates physical therapy into medical programs aboard aircraft carriers.

"I wasn't surprised when my detailer gave me two days to decide which of two carriers I would choose," Rinkel said. "I knew the new initiative to put a physical therapist on each carrier was coming. I knew of GW's great reputation and looked at it as an opportunity to experience life at sea, something my medical colleagues in Portsmouth have not been able to do."

Rinkel's new billet is also an opportunity for GW Sailors to receive needed physical therapy within one to two days conveniently aboard ship rather than dealing with traffic, and an average of two to three weeks waiting for an appointment at a local hospital or clinic.

"I don't think a lot of people know that I'm on the ship yet," said Rinkel. "When patients are referred to me by a physician's assistant or general medical officer, they are amazed and say, 'I can actually come here for treatment aboard ship rather than battle traffic to a clinic!'"

Rinkel's mission aboard extends beyond reducing lost productivity.

"If I can do some simple adjustments on a Sailor's back and get him or her off light duty within one or two days versus two weeks, it will do more than save man-hours," she said. "It will eliminate pain. You can see the relief on their faces. They are not dealing with the pain or taking Motrin any longer. The fact that Sailors are happier and healthier makes a big difference to job performance and the overall mission of the ship."

Keeping GW Sailors happier and healthier without protracted follow-up visits is another goal that Rinkel hopes to achieve, and she plans to do it by applying a common medical principle - prevention. She's been practicing the principle since running track in high school.

"What really struck me when I ran track in high school was that sports medicine dealt with the whole body," said Rinkel. "Aboard GW, we will also prevent injuries in that way with stretching exercises, muscle re-education and strengthening. If a Sailor needs physical conditioning, we have gyms aboard ship with machines and free weights that will do that as well. A technician will soon be coming aboard to assist with treatment and the strength and conditioning programs."

Preventive medicine classes and a preventive medicine folder on the LAN are two ways Rinkel proposes to increase awareness about preventing injury aboard ship.

"After only two-and-a-half months aboard GW, I've already seen some things that can be changed for the better," said Rinkel. "I've seen what people go through on the ship and what the typical injuries are. We can prevent a lot of chronic neck and back pain if Sailors would modify what they do. We'll take a look at workstations, exercise

equipment, and running shoes. I'll post information on the LAN that anybody can pull up explaining how to order the correct shoes. That alone will decrease a lot of knee pain. We'll show people what to do if their back hurts and educate them on the correct way to work out. In effect, we'll give people the tools and know-how to treat themselves."

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Headline: Research seeks answer to spatial disorientation problems

By Doris Ryan, Bureau of Medicine and Surgery

WASHINGTON -- By capitalizing on a pilot's innate sense of touch, Navy medical researchers are solving the problem of spatial disorientation. Their work can mean a major breakthrough in aviation safety -- the payoff is lives saved.

In 1989 Capt. Angus H Rupert, MC, a Navy flight surgeon first proposed a non-visual solution to provide intuitive spatial orientation -- the Tactile Situation Awareness System (TSAS). Using touch in concert with vision, pilots would constantly know where down is.

The cause of spacial disorientation in flight is biological according to Rupert, who is the principle investigator on the project at the Naval Aerospace Medical Research Laboratory in Pensacola, Fla.

"On the ground, in our day-to-day activities, spatial orientation is continuously maintained by accurate information from three independent, redundant, and concordant sensory systems -- vision, the vestibular system (inner ear), and the somatosensory system (skin, muscle, joints). We walk upright without giving a second thought to the complex processes at play within our bodies.

The research team, which based its technology on biology and basic human senses, designed a prototype computer and lightweight flight vest that translates digital information from the aircraft's orientation instruments into vibrations. The pilot feels the vibrations from tactile stimulators sewn into a flight vest. Touch becomes a continuous spatial orientation cue.

The flight vest lets the pilot know where the ground is at all times. The pilot literally feels the orientation with respect to the ground. For example, a vibration near the right shoulder means the aircraft banked right at 90 degrees, a vibration lower under the arm indicates a 45-degree right bank. A vibration at the navel indicates the aircraft's nose is down.

Rupert said, "TSAS has the capability of providing a wide variety of flight parameter information, for example, attitude, altitude, velocity, navigation, acceleration and threat location. TSAS, integrated with visual and audio display systems will provide the right information at the right time by the right sensory channels and represents the next generation human systems interface for tactical

aircraft."

For more information about TSAS and other Naval Aerospace Medical Research projects, visit the web site at <http://www.namrl.navy.mil/> .

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Headline: Great Lakes blood bank accredited

By Lt. Youssef H. Aboul-Enein, MSC, Naval Hospital Great Lakes

Great Lakes, Ill. - Cmdr. Kenneth W. Sapp, MC, head of the Clinical Laboratory Department, announced recently that the blood bank and blood donor center of the naval hospital has been accredited by the American Association of Blood Banks.

The association is a worldwide organization that is dedicated to the highest standards of excellence in blood collection and transfusion. Founded in 1947, the association is a voluntary professional society of almost 9,000 members and an institutional membership of more than 2,000 community, regional and hospital based blood bank activities.

"Accreditation is a major accomplishment that it recognized around the world." said Lt. Cmdr. Stephan F. Jun, MC, medical director of the blood bank and donor center. It involves the successful completion of a rigorous on-site inspection by an outside assessor who has been specifically trained and by the association.

"It is quite an honor for our blood bank and donor center." said Lt. Roland L. Fahie, MSC, director of the Midwest Region of the Navy Blood Program. "The real credit goes to our blood bank and donor center staff; Hospital Corpsman 1st Class Jeff Diffy; Hospital Corpsmen 2nd Class Robert Neumann and Lee Witter; Hospital Corpsmen 3rd Class Sandia Valdez, Robert Evans, Bill Lewandowski, and others. It was their outstanding efforts and personal dedication to excellence that resulted in a successful inspection and accreditation."

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Headline: Exceptional Family Member Program gets new instructions

By Tom Marko, Bureau of Medicine and Surgery

WASHINGTON -- Navy Surgeon General Vice Adm. Richard A. Nelson signed a totally revised instruction addressing the Suitability Screening and Exceptional Family Member programs. BUMED Instruction 1300.2, 17 Feb 00, "Medical, Dental, and Educational Suitability Screening and Exceptional Family Member Program Enrollment" is now policy and includes the following changes:

- Cancels NAVMEDCOMINST 1300.1C, 23 Mar 89.
- Provides comprehensive policy and procedures medical, dental, and educational screening for overseas, remote duty and operational assignments
- Provides comprehensive EFMP enrollment procedures.

- Replaces NAVMED Form 1300/1 (Rev. 8-99) (Test) with NAVMED Form 1300/1 (Rev. 2-00).
- Replaces SF 600 overprint with NAVMED Form 1300/2 (rev.2-00).
- Incorporates interim message guidance and women's health care policy issued since March 1989.
- Eliminates the pregnancy test requirement 30 days prior to transfer.
- Requires screening after periods of temporary limited duty and finding of "fit for continued Naval service" by a Physical Evaluation Board.
- Addresses special screening requirements
- Adds guidance on early intervention, special education and civilian employee screening.

BUMED Instruction 1300.2 is available for download at <http://navymedicine.med.navy.mil/instructions/external/external/htm>.

If you have any questions concerning the instruction, contact Tom Marko (MED-31BAS) at TLMarko@us.med.navy.mil; DSN 762-3107. For operational assignments, contact CAPT Jay Montgomery at JRMontgomery@us.med.navy.mil. Phone DSN 762-3466.

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Headline: Anthrax question and answer
From Bureau of Medicine and Surgery

Question: Why will it take the DoD and Coast Guard so long to vaccinate the total force?

Answer: There is not enough vaccine to vaccinate everyone at once. Therefore, the DoD has a phased-implementation program, starting with personnel in high-threat areas. Applying any program, procedures or process to the entire U.S. military force is a complicated and expensive process that must be thoroughly planned and carefully executed to achieve the desired results. Protection against anthrax is particularly challenging because the vaccination protocol requires multiple doses to achieve immunity, and thus involves significant administrative and logistical issues.

For more information visit the Navy anthrax web site at <http://www-nehc.med.navy.mil/prevmed/immun/anthrax.htm>, or the DOD anthrax web site at <http://www.anthrax.osd.mil/>.

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Headline: TRICARE question and answer
From Bureau of Medicine and Surgery

Question: Does the copayment increase for the emergency room?

Answer: There are no out-of-pocket costs for any care received at a military hospital, including emergency room care. The out-of-pocket costs for care received at a civilian emergency room for families of E-4 and below

enrolled in Prime is \$10. For families of E-5 and above and retirees and their families, the copay for an emergency room visit is \$30.

This single payment, \$10 or \$30, includes all emergency room services provided in conjunction with the visit. For those who have chosen to remain in TRICARE Standard, or use the TRICARE Extra program, their regular deductibles and copayments apply.

For more information visit the TRICARE web site at <http://www.tricare.osd.mil>

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Headline: Healthwatch: Oral cancer: are you at risk?
From Bureau of Medicine and Surgery

WASHINGTON - The most common form of oral cancer is known as squamous cell carcinoma. It classically develops as a crater-like lesion having a velvety red base with rough edges similar to a very bad "pizza burn." However, it may appear as white patches, with some irregular red patches, mixed together in its earlier stages.

An important aspect of squamous cell carcinoma is its location within the mouth. The lower lip and the tongue are the most frequent sites with the floor of the mouth not far behind.

Lesions are usually solitary but in some cases have been found to occur in groups. The concern with the location is that certain areas allow the cancer an easier route to spread to other parts of the body, metastasize, and lessen chances for a good prognosis. Lesions found on the back third of the tongue have the greatest chance to metastasize, usually to lymph nodes in the neck.

As with most cancers we still don't know everything there is to know about what causes squamous cell carcinoma, but we do know what increases the risks of developing it.

The use of tobacco products (smoking, snuff, pipe, cigar, etc.) is a major risk factor, but also the use of alcohol products has been found to increase the risks of developing the cancer.

When these two risk factors are put together, it becomes the greatest risk factor. This is why the highest occurrence of oral cancer is found in the middle-aged to elderly male population who have a history of tobacco and or alcohol use.

The treatment of squamous cell carcinoma depends on several factors: time of detection, size of tumor, spread of tumor, etc. Treatments may range from surgical removal of the tumor, radiation of the tumor or chemotherapy. Most occurrences will require a combination of these treatments.

The overall 5-year survival rate for all oral cancer patients is about 40%. This percentage is getting better as we are detecting the cancer earlier and educating patients to the risk factors associated with the cancer.

It is very important that patients periodically examine their mouths for any changes that could be associated with

oral cancer. A self-exam is fairly simple and could save a patient's life. It must be understood that there is very little, if any, pain associated with oral cancer until the very late stages. Therefore, it is imperative that people routinely stand in front of the mirror and actually take a look inside of their mouth.

Use a mirror with good lighting, open your mouth wide enough to see all of your teeth and the back of your throat. A good time to do this is right after you brush your teeth. Look at the insides of your cheeks, the roof of your mouth, your tongue (especially the sides as far back as possible), the floor of your mouth, your gums and the inside of both of your lips.

Note anything that appears to be an odd color, texture, or shape especially when it is only found on one side of your mouth. Keep in mind that early signs of squamous cell carcinoma usually show up as white or red patches or some combination.

Should you find anything suspicious, schedule an appointment with your dentist for a professional exam, especially if you fall into one of the high risk groups (use of tobacco and or alcohol). Your dentist should examine an ulcer in your mouth that doesn't heal within two weeks. Dentists routinely do an oral cancer screening upon your normal check-ups, but do not neglect to do a self-exam on your own mouth at least once a week.

Remember, the earlier that squamous cell carcinoma is detected, the better the prognosis. As with all oral health concerns, prevention is the key to success.

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Comments about and ideas for MEDNEWS are welcome. Story submissions are encouraged. Contact MEDNEWS editor, Earl W. Hicks, at email: mednews@us.med.navy.mil; Telephone 202/762-3223, (DSN) 762-3223, or fax 202/762-3224.

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